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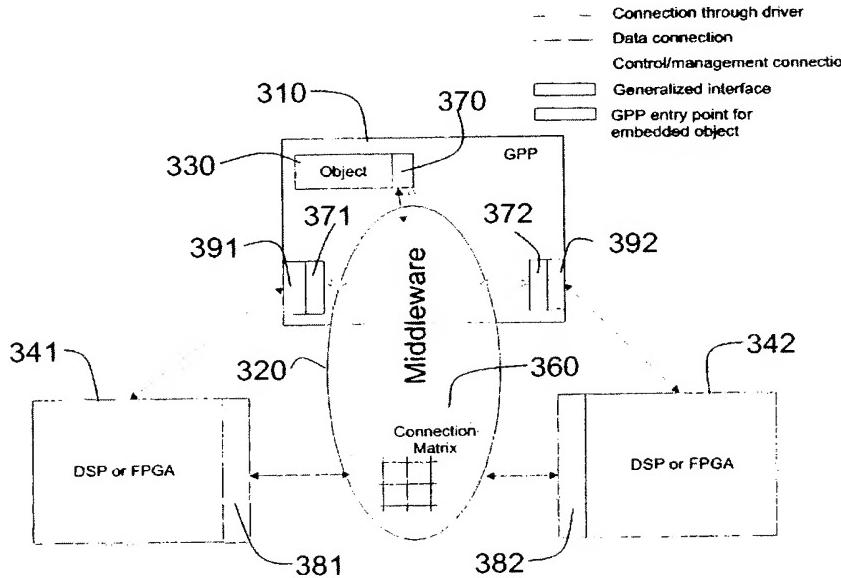
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(54) Title: NON-CENTRALIZED MIDDLEWARE CHANNEL STRUCTURES FOR IMPROVED THROUGHPUT EFFICIENCY



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(57) Abstract: A method and apparatus are disclosed for separating the functionality of middleware (320) in a device with embedded resources (341,342) so that data transfer between embedded resources used by an object (330) resident in a general purpose processor (310) of the device takes place directly, thereby minimizing bandwidth overhead at the general purpose processor. The control interface (371,372) for an embedded resource resides in the general purpose processor and uses the device driver of the embedded resource, whereas the data interface (381,382) is outside the general purpose processor and provides direct communication with a switch matrix (360) serving each embedded resource.



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